```
=> e schmitt joachim/au
E1            1     SCHMITT JERRY C/AU
E2            2     SCHMITT JIM/AU
E3           38 --> SCHMITT JOACHIM/AU
E4            9     SCHMITT JOACHIM J/AU
E5            3     SCHMITT JOACHIM M/AU
E6           31     SCHMITT JOACHIM P/AU
E7            1     SCHMITT JOANNE/AU
E8           20     SCHMITT JOCHEN/AU
E9            2     SCHMITT JOCHEN M/AU
E10           3     SCHMITT JOE/AU
E11           7     SCHMITT JOERG/AU
E12           4     SCHMITT JOERG J/AU

=> s e3-e9 and trypano?
L1            0 ("SCHMITT JOACHIM"/AU OR "SCHMITT JOACHIM J"/AU OR "SCHMITT
                JOACHIM M"/AU OR "SCHMITT JOACHIM P"/AU OR "SCHMITT JOANNE"/AU
               OR "SCHMITT JOCHEN"/AU OR "SCHMITT JOCHEN M"/AU) AND TRYPANO?

=> e boehm guenther/au
E1            1     BOEHM GUENTER DR RER NAT/AU
E2            2     BOEHM GUENTER ING GRAD/AU
E3           71 --> BOEHM GUENTHER/AU
E4            2     BOEHM GUIDO/AU
E5            1     BOEHM GUIDO U/AU
E6           16     BOEHM GUNDO/AU
E7            3     BOEHM GUNTER/AU
E8           50     BOEHM GUNTHER/AU
E9           18     BOEHM GUSTAV/AU
E10           4     BOEHM GUSTAV A/AU
E11          10     BOEHM GUSTAV ADOLF/AU
E12           2     BOEHM GYORGY MIKLOS/AU

=> s e1-e3 and trypano?
L2            1 ("BOEHM GUENTER DR RER NAT"/AU OR "BOEHM GUENTER ING GRAD"/AU
                OR "BOEHM GUENTHER"/AU) AND TRYPANO?

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2004:510002  CAPLUS
DN   141:84624
TI   Trans-sialidases and genes of Trypanosoma congolense and their
     uses in enzymic sialidation and preparation of food and pharmaceuticals
IN   Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl,
     Bernd; Schrader, Silke
PA   N.V. Nutricia, Neth.
SO   Ger. Offen., 33 pp.
     CODEN: GWXXBX
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   DE 10258400          A1    20040624    DE 2002-10258400        20021213
     CA 2509070           A1    20040701    CA 2003-2509070         20031211
     WO 2004055176        A2    20040701    WO 2003-EP14079         20031211
     WO 2004055176        A3    20050526
         W:  AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IT, LU, MC, NL, PT, RO, SE, SI, SK, TR
     AU 2003294833        A1    20040709    AU 2003-294833          20031211
     EP 1570054           A2    20050907    EP 2003-785794          20031211
```

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        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     CN 1726279            A     20060125    CN 2003-80106002       20031211
     JP 2006509515         T     20060323    JP 2004-559814         20031211
     US 2007004656         A1    20070104    US 2005-538840         20050613
PRAI DE 2002-10258400      A     20021213
     WO 2003-EP14079       W     20031211
AB   The invention concerns enzymes from T. congolense which transfer sialic
     acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as
     the nucleic acids encoding these enzymes.  These enzymes may be used for
     enzymic sialization of acceptor mols. as well as for screening for
     inhibitors of the enzymes.  Also disclosed are uses of the nucleic acids,
     enzymes, effectors, or sialization products for production of antigens,
     medicines, food or food supplements.  Thus, two trans-sialidases were
     isolated from T. congolense.  Both displayed a temperature optimum of
     30-40° and a pH optimum of 6.5-8.5.  The native mol. weight of one was
     400-600 kDa, of the other, 120-180 kDa.  Both contained subunits of 90
     kDa.


=> e stahl bernd/au
E1            1     STAHL BENTON M/AU
E2            1     STAHL BERNARD U/AU
E3          147 --> STAHL BERND/AU
E4           16     STAHL BERNHARD/AU
E5           46     STAHL BERNHARD U/AU
E6            1     STAHL BERRY/AU
E7            1     STAHL BERT/AU
E8            2     STAHL BERTHAMARIE/AU
E9           23     STAHL BERTIL/AU
E10           1     STAHL BETH A/AU
E11           5     STAHL BETTINA/AU
E12          70     STAHL BISKUP E/AU

=> s e1-e3 and trypano?
L3            4 ("STAHL BENTON M"/AU OR "STAHL BERNARD U"/AU OR "STAHL BERND"/AU
              ) AND TRYPANO?

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4             3 DUP REM L3 (1 DUPLICATE REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 3 ANSWERS - CONTINUE? Y/(N):y

L4   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2004:510002  CAPLUS
DN   141:84624
TI   Trans-sialidases and genes of Trypanosoma congolense and their
     uses in enzymic sialidation and preparation of food and pharmaceuticals
IN   Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl, Bernd
     ; Schrader, Silke
PA   N.V. Nutricia, Neth.
SO   Ger. Offen., 33 pp.
     CODEN: GWXXBX
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     ---------------     ----   --------    --------------------     --------
PI   DE 10258400          A1    20040624    DE 2002-10258400         20021213
     CA 2509070           A1    20040701    CA 2003-2509070          20031211
     WO 2004055176        A2    20040701    WO 2003-EP14079          20031211
     WO 2004055176        A3    20050526
```

W: AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

AU	2003294833	A1	20040709	AU 2003-294833	20031211
EP	1570054	A2	20050907	EP 2003-785794	20031211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN	1726279	A	20060125	CN 2003-80106002	20031211
JP	2006509515	T	20060323	JP 2004-559814	20031211
US	2007004656	A1	20070104	US 2005-538840	20050613
PRAI DE	2002-10258400	A	20021213		
WO	2003-EP14079	W	20031211		

AB The invention concerns enzymes from T. congolense which transfer sialic acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as the nucleic acids encoding these enzymes. These enzymes may be used for enzymic sialization of acceptor mols. as well as for screening for inhibitors of the enzymes. Also disclosed are uses of the nucleic acids, enzymes, effectors, or sialization products for production of antigens, medicines, food or food supplements. Thus, two trans-sialidases were isolated from T. congolense. Both displayed a temperature optimum of 30-40° and a pH optimum of 6.5-8.5. The native mol. weight of one was 400-600 kDa, of the other, 120-180 kDa. Both contained subunits of 90 kDa.

L4 ANSWER 2 OF 3 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 1
AN 1993:275368 BIOSIS
DN PREV199396005593
TI Proteolytic release of cell surface proteins during differentiation of Trypanosoma brucei.
AU Ziegelbaur, Karl [Reprint author]; Stahl, Bernd; Karas, Michael; Stierhof, York-Dieter; Overath, Peter
CS Max-Planck-Inst. Biol., Abt. Membranbiochem., Correnssstr. 38, D7400 Tuebingen, Germany
SO Biochemistry, (1993) Vol. 32, No. 14, pp. 3737-3742.
CODEN: BICHAW. ISSN: 0006-2960.
DT Article
LA English
ED Entered STN: 9 Jun 1993
Last Updated on STN: 9 Jun 1993
AB The surface of the bloodstream forms of Trypanosoma brucei is covered by the abundant glycosylphosphatidylinositol-anchored variant surface protein (mfVSG). During differentiation of bloodstream forms to the insect-stage or procyclic forms, the mfVSG is replaced by another glycoprotein, designated procyclic acidic repetitive protein (PARP) or procyclin. Shortly after differentiation is triggered in vitro, a cell-associated fragment of mfVSG can be detected which is subsequently released into the culture medium. In the case of the mfVSG of the variant clone MIT at 1.4 (470 amino acid residues), fragmentation occurs close to the COOH-terminus (Gln-433 or Thr-434) as shown by NH-2-terminal sequencing, metabolic labeling experiments, and molecular weight determinations by laser desorption/ionization mass spectrometry. Two invariant surface glycoproteins, which are anchored in the membrane by hydrophobic sequences close to their COOH-termini, are lost from the surface with similar kinetics as mfVSG. The data suggest that trypanosomes synthesize or activate a developmentally-regulated proteinase which degrades the glycoproteins at the surface, at the membrane lining the flagellar pocket, and/or in an early endocytic compartment.

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1991:224704 CAPLUS
DN 114:224704
TI The use of fast atom bombardment and laser desorption mass spectrometry in

the analysis of complex carbohydrates
AU Egge, Heinz; Peter-Katalinic, Jasna; Karas, Michael; Stahl, Bernd
CS Inst. Physiol. Chem., Univ. Bonn, Bonn, Germany
SO Pure and Applied Chemistry (1991), 63(4), 491-8
CODEN: PACHAS; ISSN: 0033-4545
DT Journal; General Review
LA English
AB A review with 45 refs. summarizing results of the mass spectrometric anal. of oligosaccharides of human milk, of phosphoinositol-linked glycans from the variant surface glycoprotein of Trypanosoma brucei, and of some high-mol.-weight glycosphingolipids with up to 40 sugar residues that are present in rabbit erythrocyte membranes.

=> e schauer roland/au
E1 1 SCHAUER ROBERTA/AU
E2 2 SCHAUER ROGER W/AU
E3 465 --> SCHAUER ROLAND/AU
E4 21 SCHAUER ROLF/AU
E5 16 SCHAUER ROLF J/AU
E6 3 SCHAUER ROLF JOSEF/AU
E7 1 SCHAUER RON J/AU
E8 1 SCHAUER RON VERN/AU
E9 2 SCHAUER RONALD/AU
E10 6 SCHAUER RONALD VERN/AU
E11 43 SCHAUER S/AU
E12 7 SCHAUER S E/AU

=> s e3 and trypano?
L5 23 "SCHAUER ROLAND"/AU AND TRYPANO?

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6 15 DUP REM L5 (8 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):y

L6 ANSWER 1 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
AN 2007:246176 BIOSIS
DN PREV200700247991
TI Nonradioactive trans-sialidase screening assay.
AU Schrader, Silke [Reprint Author]; Schauer, Roland
CS Univ Cologne, Biochem Inst, Cologne, Germany
SO Brockhausen, I [Editor]. Methods in Molecular Biology, (2006) pp. 93-107. Methods in Molecular Biology.
Publisher: HUMANA PRESS INC, 999 RIVERVIEW DR, STE 208, TOTOWA, NJ 07512-1165 USA. Series: METHODS IN MOLECULAR BIOLOGY.
ISSN: 1064-3745. ISBN: 978-1-58829-553-8(H).
DT Book; (Book Chapter)
LA English
ED Entered STN: 18 Apr 2007
Last Updated on STN: 18 Apr 2007
AB Trans-sialidase (TS; E.C. 3.2.1.18) catalyzes the transfer of preferably alpha 2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha 2,3-linkage to galactose or N-acetylgalactosamine. In the absence of an appropriate acceptor, TS acts as a sialidase, hydrolytically releasing glycosidically linked sialic acid. Interest in TS has increased rapidly in recent years owing to its great relevance to the pathogenicity of trypanosomes and its possible application in the regiospecific synthesis of sialylated carbohydrates and glycoconjugates. Recently, the authors described a newly developed nonradioactive screening test for monitoring TS activity (1). In this highly sensitive and

specific assay, 4-methylumbelliferyl-beta-D-galactoside is used as acceptor substrate and sialyllactose as donor to fluorimetrically detect enzyme activity in the low mU range (similar to 0.1-1 mU/mL possible). The test can be applied to screen a large number of samples quickly and reliably during enzyme purification, for testing inhibitors, and for monitoring TS activity during the production of monoclonal antibodies (2).This chapter focuses on the main steps of this assay and gives detailed instructions for performing a nonradioactive TS 96-well-plate fluorescence test. In addition, it describes the controls necessary when starting to monitor an unknown TS and facts to be considered when testing new substrates and inhibitors.

L6 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1
AN 2006:1238052 CAPLUS
DN 146:374653
TI Nonradioactive Trans-sialidase screening assay
AU Schrader, Silke; Schauer, Roland
CS Biochemisches Institut, University of Koeln, Cologne, Germany
SO Methods in Molecular Biology (Totowa, NJ, United States) (2006), 347(Glycobiology Protocols), 93-107
CODEN: MMBIED; ISSN: 1064-3745
PB Humana Press Inc.
DT Journal
LA English
AB Trans-sialidase (TS; E.C. 3.2.1.18) catalyzes the transfer of preferably α2,3-linked sialic acid to another glycan or glycoconjugate, forming a new α2,3-linkage to galactose or N-acetylgalactosamine. In the absence of an appropriate acceptor, TS acts as a sialidase, hydrolytically releasing glycosidically linked sialic acid. Interest in TS has increased rapidly in recent years owing to its great relevance to the pathogenicity of trypanosomes and its possible application in the regiospecific synthesis of sialylated carbohydrates and glycoconjugates. Recently, the authors described a newly developed nonradioactive screening test for monitoring TS activity. In this highly sensitive and specific assay, 4-methylumbelliferyl-β-D-galactoside is used as acceptor substrate and sialyllactose as donor to fluorimetrically detect enzyme activity in the low mil range (.apprx.0.1-1 mU/mL possible). The test can be applied to screen a large number of samples quickly and reliably during enzyme purification, for testing inhibitors, and for monitoring TS activity during the production of monoclonal antibodies. This chapter focuses on the main steps of this assay and gives detailed instructions for performing a nonradioactive TS 96-well-plate fluorescence test. In addition, it describes the controls necessary when starting to monitor an unknown TS and facts to be considered when testing new substrates and inhibitors.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:510002 CAPLUS
DN 141:84624
TI Trans-sialidases and genes of Trypanosoma congolense and their uses in enzymic sialidation and preparation of food and pharmaceuticals
IN Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl, Bernd; Schrader, Silke
PA N.V. Nutricia, Neth.
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10258400	A1	20040624	DE 2002-10258400	20021213
	CA 2509070	A1	20040701	CA 2003-2509070	20031211

WO 2004055176	A2	20040701	WO 2003-EP14079	20031211
WO 2004055176	A3	20050526		
W: AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
AU 2003294833	A1	20040709	AU 2003-294833	20031211
EP 1570054	A2	20050907	EP 2003-785794	20031211
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726279	A	20060125	CN 2003-80106002	20031211
JP 2006509515	T	20060323	JP 2004-559814	20031211
US 2007004656	A1	20070104	US 2005-538840	20050613
PRAI DE 2002-10258400	A	20021213		
WO 2003-EP14079	W	20031211		

AB The invention concerns enzymes from T. congolense which transfer sialic acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as the nucleic acids encoding these enzymes. These enzymes may be used for enzymic sialization of acceptor mols. as well as for screening for inhibitors of the enzymes. Also disclosed are uses of the nucleic acids, enzymes, effectors, or sialization products for production of antigens, medicines, food or food supplements. Thus, two trans-sialidases were isolated from T. congolense. Both displayed a temperature optimum of 30-40° and a pH optimum of 6.5-8.5. The native mol. weight of one was 400-600 kDa, of the other, 120-180 kDa. Both contained subunits of 90 kDa.

L6 ANSWER 4 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 2
AN 2003:375019 BIOSIS
DN PREV200300375019
TI Two trans-sialidase forms with different sialic acid transfer and sialidase activities from Trypanosoma congolense.
AU Tiralongo, Evelin; Schrader, Silke; Lange, Hans; Lemke, Hilmar; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Universitaet zu Kiel, Olshausenstrasse 40, Kiel, 24098, Germany
schauer@biochem.uni-kiel.de
SO Journal of Biological Chemistry, (June 27 2003) Vol. 278, No. 26, pp. 23301-23310. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 13 Aug 2003
Last Updated on STN: 13 Aug 2003
AB Trypanosomes express an enzyme called trans-sialidase (TS), which enables the parasites to transfer sialic acids from the environment onto trypanosomal surface molecules. Here we describe the purification and characterization of two TS forms from the African trypanosome Trypanosoma congolense. The purification of the two TS forms using a combination of anion exchange chromatography, isoelectric focusing, gel filtration, and subsequently, antibody affinity chromatography resulted, in both cases, in the isolation of a 90-kDa monomer on SDS-PAGE, which was identified as trans-sialidase using micro-sequencing. Monoclonal antibody 7/23, which bound and partially inhibited TS activity, was found in both cases to bind to a 90-kDa protein. Both TS forms possessed sialidase and transfer activity, but markedly differed in their activity ratios. The TS form with a high transfer-to-sialidase activity ratio, referred to as TS-form 1, possessed a pI of pH 4-5 and a molecular mass of 350-600 kDa. In contrast, the form with a low transfer-to-sialidase activity ratio, referred to as TS-form 2, exhibited a pI of pH 5-6.5 and a molecular mass of 130-180 kDa. Both TS forms were not significantly inhibited by known sialidase inhibitors and revealed no significant differences in donor and acceptor substrate specificities; however, TS-form 1 utilized various acceptor substrates

with a higher catalytic efficiency. Interestingly, glutamic acid-alanine-rich protein, the surface glycoprotein, was co-purified with TS-form 1 suggesting an association between both proteins.

L6 ANSWER 5 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 3
AN 2003:525432 BIOSIS
DN PREV200300528766
TI Trans-sialidase-like sequences from Trypanosoma congolense conserve most of the critical active site residues found in other trans-sialidases.
AU Tiralongo, Evelin; Martensen, Ilka; Groetzinger, Joachim; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, Olshausenstrasse 40, D-24098, Kiel, Germany
SO Biological Chemistry, (August 2003) Vol. 384, No. 8, pp. 1203-1213. print.
ISSN: 1431-6730.
DT Article
LA English
ED Entered STN: 12 Nov 2003
Last Updated on STN: 12 Nov 2003
AB Trypanosoma congolense is the agent of Nagana, the trypanosomiasis in African ruminants. Trypanosomes express an enzyme called trans-sialidase, which is believed to play an important role in maintaining pathogenicity of the parasites. Thus far, only two complete trans-sialidase sequences have been characterised, one from the American trypanosome T. cruzi and one from the African trypanosome T. brucei brucei. Although the crystal structure of T. cruzi trans-sialidase has recently been published (Buschiazzo et al., Mol. Cell 10 (2002), pp. 757-768), a number of questions concerning the exact transfer mechanism remain unanswered. The availability of further trans-sialidase sequences will ensure a better understanding of how transfer activity can be achieved and will provide the opportunity to develop highly specific, structure-based trans-sialidase inhibitors. Utilising a PCR-based approach two different trans-sialidase gene copies from T. congolense were identified, which share only 50% identity with each other, but show significant similarity with known viral, bacterial and trypanosomal sialidases and trans-sialidases. In both partial sequences most of the critical active site residues common to other trypanosomal sialidases and trans-sialidases are conserved. This is further illustrated by modelling the active site of the longer of the two partial gene sequences.

L6 ANSWER 6 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 4
AN 2004:193248 BIOSIS
DN PREV200400207215
TI A nonradioactive 96-well plate assay for screening of trans-sialidase activity.
AU Schrader, Silke; Tiralongo, Evelin; Paris, Gaston; Yoshino, Teruo; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
schauer@biochem.uni-kiel.de
SO Analytical Biochemistry, (November 15 2003) Vol. 322, No. 2, pp. 139-147. print.
ISSN: 0003-2697 (ISSN print).
DT Article
LA English
ED Entered STN: 14 Apr 2004
Last Updated on STN: 14 Apr 2004
AB Trans-sialidase (E.C. 3.2.1.18) catalyzes the transfer of preferably alpha2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha2,3 linkage to galactose or N-acetylgalactosamine. Here, we

describe a nonradioactive 96-well plate fluorescence test for monitoring trans-sialidase activity with high sensitivity, specificity, and reproducibility using sialyllactose and 4-methylumbelliferyl-beta-D-galactoside as donor and acceptor substrates, respectively. The assay conditions were optimized using the trans-sialidase from Trypanosoma congolense and its general applicability was confirmed with recombinant trans-sialidase from Trypanosoma cruzi. Using this procedure, a large number of samples can be tested quickly and reliably, for instance in monitoring trans-sialidase during enzyme purification and the production of monoclonal antibodies, for enzyme characterization, and for identifying potential substrates and inhibitors. The trans-sialidase assay reported here was capable of detecting trans-sialidase activity in the low-mU range and may be a valuable tool in the search for further trans-sialidases in various biological systems.

L6 ANSWER 7 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
AN 2001:93151 BIOSIS
DN PREV200100093151
TI Trypanosomal transsialidase; a multi-talented "glycosyltransferase".
AU Raudies, Evelin [Reprint author]; Schrader, Silke [Reprint author]; Engstler, Markus; Schauer, Roland [Reprint author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
SO Glycoconjugate Journal, (January-February, 2000) Vol. 17, No. 1-2, pp. 56. print.
Meeting Info.: Second International Glycosyltransferase Symposium. Toronto, Ontario, Canada. May 12-14, 2000.
ISSN: 0282-0080.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 21 Feb 2001
Last Updated on STN: 12 Feb 2002

L6 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:531295 CAPLUS
DN 127:231077
TI Chemical synthesis of 4-trifluoromethylumbelliferyl-α-D-N-acetylneuraminic acid glycoside and its use for the fluorometric detection of poorly expressed natural and recombinant sialidases
AU Engstler, Markus; Talhouk, Jamil W.; Smith, Robert E.; Schauer, Roland
CS Biochemisches Institut, Christian-Albrechts-Universitat, Kiel, D-24098, Germany
SO Analytical Biochemistry (1997), 250(2), 176-180
CODEN: ANBCA2; ISSN: 0003-2697
PB Academic
DT Journal
LA English
AB When compared to bacterial or viral sialidases, eukaryotic sialidases are expressed at lower levels and frequently show poor specific activities. The identification and characterization of sialidases from eukaryotes have been slowed down due to the limited sensitivity of available sialidase substrates. Therefore, we chemical synthesized a fluorogenic compound, 4-trifluoromethylumbelliferyl-α-D-N-acetylneuraminic acid (CF3MU-Neu5Ac), and tested its use as a substrate for eight different sialidases, including enzymes from viral, bacterial, and eukaryotic sources. Kinetic anal. revealed CF3MU-Neu5Ac to be a very sensitive sialidase substrate. Furthermore, this substance proves to be perfectly suitable for the in vivo examination of sialidases and for the detection of recombinant sialidase by means of expression cloning.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1994:675036 CAPLUS
DN 121:275036
TI N-(4-nitrophenyl)oxamic acid and related N-acylanilines are non-competitive inhibitors of Vibrio cholerae sialidase but do not inhibit Trypanosoma cruzi or Trypanosoma brucei trans-sialidases
AU Engstler, Markus; Ferrero-Garcia, Miguel A.; Parodi, Armando J.; Schauer, Roland; Storz-Eckerlin, Thomas; Vasella, Andrea; Witzig, Christian; Zhu, Xiaoying
CS Biochemisches Institut, Universitaet Kiel, Kiel, D-24118, Germany
SO Helvetica Chimica Acta (1994), 77(4), 1166-74
CODEN: HCACAV; ISSN: 0018-019X
DT Journal
LA English
AB N-(4-Nitrophenyl)oxamic acid (I), N-(2-fluoro-4-nitrophenyl)oxamic acid, N-(4-nitrophenyl)trifluoroacetamide, and N-(2-methoxy-4-nitrophenyl)trifluoroacetamide are non-competitive inhibitors of Vibrio cholerae sialidase with Ki-values ranging from 2.66 to 5.18 + 1014 M. These compds., and N-acetylneuraminic-acid analogs do not inhibit the sialidase and trans-sialidase activities from Trypanosoma cruzi; nor does I inhibit the corresponding enzyme activities from T. brucei.

L6 ANSWER 10 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
AN 1993:373907 BIOSIS
DN PREV199345045332
TI Sialidases from African trypanosomes.
AU Engstler, Markus; Schauer, Roland
CS Biochemisches Inst., Christian-Albrechts-Univ., Olshausenstrasse 40, D-2300 Kiel 1, Germany
SO Parasitology Today, (1993) Vol. 9, No. 6, pp. 222-225.
CODEN: PATOE2. ISSN: 0169-4758.
DT Article
LA English
ED Entered STN: 12 Aug 1993
Last Updated on STN: 13 Aug 1993

L6 ANSWER 11 OF 15 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN DUPLICATE 5
AN 1993:523988 BIOSIS
DN PREV199396137395
TI The developmentally regulated trans-sialidase from Trypanosoma brucei sialylates the procyclic acidic repetitive protein.
AU Engstler, Markus; Reuter, Gerd; Schauer, Roland
CS Biochemisches Inst., Christian-Albrechts-Universitaet, Olshausenstr. 40, D-24098 Kiel, Germany
SO Molecular and Biochemical Parasitology, (1993) Vol. 61, No. 1, pp. 1-14.
CODEN: MBIPDP. ISSN: 0166-6851.
DT Article
LA English
ED Entered STN: 19 Nov 1993
Last Updated on STN: 13 Jan 1994
AB A developmentally regulated trans-sialidase activity is present on the surface of procyclic Trypanosoma brucei. Bloodstream stages display no trans-sialidase activity. T. brucei trans-sialidase is capable or transferring sialic acids from a variety of glycoconjugates into new glycosidic linkages without requirement for CMP-Neu5Ac. The enzyme is linked to the plasma-membrane via a GPI-PLC-resistant GPI-anchor. The comparison of enzymic and structural features of sialidase and trans-sialidase suggests that the two activities may be catalyzed by the same protein, since highly enriched sialidase fractions display trans-sialidase activity. 2-Deoxy-2,3-didehydro-N-acetylneuraminic acid is only a poor inhibitor for the two enzymic activities. Sialic acids are

transferred to alpha(2-3)-positions of terminal beta-galactose residues of oligosaccharides and glycoconjugates at various rates. Neu5Ac-alpha(2-3)-lactose is the best trans-sialylation donor tested. Lewis' is a poor sialic acid acceptor. T. brucei trans-sialidase utilizes serum glycoconjugates, human and bovine erythrocytes as sialic acid donors, and resialylates sialidase-treated erythrocytes. The enzyme transfers sialic acids from the GPI-anchor of procyclic acidic repetitive protein (PARP) onto lactose and vice versa. Also structures within a variant surface glycoprotein (sVSG MITat. 1.7.) can be trans-sialylated.

L6 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:607626 CAPLUS
DN 117:207626
TI Purification and characterization of a novel sialidase found in procyclic culture forms of Trypanosoma brucei
AU Engstler, Markus; Reuter, Gerd; Schauer, Roland
CS Biochem. Inst., Christian-Albrechts-Univ., Kiel, Germany
SO Molecular and Biochemical Parasitology (1992), 54(1), 21-30
CODEN: MBIPDP; ISSN: 0166-6851
DT Journal
LA English
AB A membrane-bound sialidase (EC 3.2.1.18) (I) was found in procyclic trypomastigotes of T. brucei. The mammalian stage bloodstream form, however, displayed no I activity. This I was an integral surface protein, linked to the membrane via a glycosylphosphatidylinositol anchor. After osmotic lysis and solubilization with Triton CF-54, I was purified 1900-fold by gel filtration and ion-exchange chromatog. Its size, as determined by conventional and HPLC, was 67 kDa. I was active over a broad pH and temperature range with optima at pH 6.9 and 35°, resp. No loss of activity was observed after 4 freeze-thaw cycles. T. brucei I was inhibited by N-(4-nitrophenyl)oxamic acid and 2-deoxy-2,3-didehydro-N-acetylneuraminic acid, the latter, however, being less effective. N-Acetylneuraminic acid showed no inhibitory effect, whereas a variety of metal ions were potent inhibitors. I was activated by di- and tricarboxylic acids, but inhibited by Cl-. The relative hydrolysis rates of various sialic acid-containing compds. revealed that de-O-acetylated bovine submandibular gland mucin was the preferred substrate and that α(2-3)-linkages were hydrolyzed faster than α(2-6)-linkages.

L6 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1989:627986 CAPLUS
DN 111:227986
TI Diagnosis of infections by immunoassay for microbial enzymes
IN Schauer, Roland
PA Ferring Biotechnik G.m.b.H., Fed. Rep. Ger.
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3720655	A1	19890105	DE 1987-3720655	19870623
	DE 3720655	C2	19890713		
PRAI	DE 1987-3720655		19870623		

AB Infections or contamination of biol. substrates with microorganisms are specifically detected by heterogeneous immunoassay for enzymes produced by the microorganisms. Thus, a sheep antibody to Clostridium perfringens sialidase was immobilized in wells of a microtiter plate and incubated with sample or sialidase-containing stds. The wells were washed, incubated with a 2nd antibody from rabbits to C. perfringens sialidase, washed, incubated with peroxidase-labeled goose anti-rabbit Ig, washed, and incubated with peroxidase substrate (o-phenylenediamine and H2O2), and the intensity of the yellow color formed was determined for diagnosis of gas

gangrene.

L6 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1988:182574 CAPLUS
DN 108:182574
TI Isolation and properties of a sialidase from Trypanosoma rangeli
AU Reuter, Gerd; Schauer, Roland; Prioli, Reginaldo; Pereira, Miercio E. A.
CS Biochem. Inst., Christian-Albrechts-Univ., Kiel, D-2300, Fed. Rep. Ger.
SO Glycoconjugate Journal (1987), 4(4), 339-48
CODEN: GLJOEW; ISSN: 0282-0080
DT Journal
LA English
AB In the culture supernatant fraction of T. rangeli, a sialidase was present with an activity of 0.1 units/mg protein. This enzyme was purified about 700-fold almost to homogeneity by gel chromatog. on Sephadex G-100 and Blue Sepharose, and affinity chromatog. on 2-deoxy-2,3-didehydroneuraminic acid and horse submandibular gland mucin, both immobilized on Sepharose. The pH optimum was at 5.4-5.6, and the mol. weight by gel chromatog., HPLC and SDS-PAGE was 70,000. The substrate specificity of the enzyme was comparable to bacterial, viral, and mammalian sialidases. 4-O-Acetylated sialyl derivs. were resistant towards the action of this sialidase. The enzyme activity was inhibited by 2-deoxy-2,3-didehydro-N-acetylneuraminic acid, Hg2+ ions, and p-nitrophenyloxamic acid; it was not dependent on the presence of Ca2+ Mn2+, or Mg2+ ions.

L6 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1983:518984 CAPLUS
DN 99:118984
TI The occurrence of N-acetyl- and N-glycoloyineuraminic acid in Trypanosoma cruzi
AU Schauer, Roland; Reuter, Gerd; Muehlpfordt, Heinz; Andrade, Arnaldo F. B.; Pereira, Miercio E. A.
CS Biochem. Inst., Univ. Kiel, Kiel, Fed. Rep. Ger.
SO Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1983), 364(8), 1053-7
CODEN: HSZPAZ; ISSN: 0018-4888
DT Journal
LA English
AB Different strains of T. cruzi were analyzed to have 65-105 μg sialic acid/1010 cells. By thin-layer chromatog., and in part by gas-liquid chromatog. and gas-liquid chromatog.-mass spectrometry, all strains were found to contain N-acetyl- and N-glycolylneuraminic acid in various ratios. After incubation of the parasites with either [3H]acetate or N-acetyl-[3H]mannosamine, no radioactivity was found in the sialic acids, thus leading to the suggestion that the parasites are unable to synthesize sialic acids from their precursors.

```
=> e tiralongo evelin/au
E1            7     TIRALONGO E/AU
E2            1     TIRALONGO EMILIA/AU
E3           12 --> TIRALONGO EVELIN/AU
E4           12     TIRALONGO J/AU
E5           36     TIRALONGO JOE/AU
E6            5     TIRALONGO M/AU
E7            3     TIRALOSI G/AU
E8            1     TIRALOVA Z/AU
E9           19     TIRALTI M C/AU
E10           1     TIRALTI M CRISTINA/AU
E11           4     TIRALTI MARIA CRISTINA/AU
E12          11     TIRAM E/AU

=> s e3
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L7          12 "TIRALONGO EVELIN"/AU

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8             6 DUP REM L7 (6 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y


L8   ANSWER 1 OF 6     MEDLINE on STN
AN   2007260161     IN-PROCESS
DN   PubMed ID: 17442034
TI   Use of complementary and alternative medicine among people living with
     diabetes: literature review.
AU   Chang Hsiao-yun; Wallis Marianne; Tiralongo Evelin
CS   School of Nursing and Midwifery, Griffith University, Gold Coast,
     Queensland, Australia.. chang369@gmail.com
SO   Journal of advanced nursing, (2007 May) Vol. 58, No. 4, pp. 307-19.
     Electronic Publication: 2007-04-17.
     Journal code: 7609811. ISSN: 0309-2402.
CY   England: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals; Nursing Journals
ED   Entered STN: 2 May 2007
     Last Updated on STN: 29 May 2007
AB   AIM: This paper is a report of a literature review to explore the
     prevalence of complementary and alternative medicine use amongst people
     with diabetes to inform nursing practice, education and research.
     BACKGROUND: Diabetes mellitus affects the entirety of a person's being and
     increasingly people use complementary and alternative medicine in
     conjunction with other medical treatments and lifestyle modifications to
     manage their condition and improve well-being.  METHODS: The CINAHL,
     Medline, ProQuest nursing journals and Psych INFO databases were searched
     for the period 1990-2006 using identified keywords.  RESULTS: A total of
     18 studies from nine countries were found.  The results suggest that the
     prevalence of complementary and alternative medicine use among people with
     diabetes ranges from 17% to 72.8%.  The most widely used therapies among
     diabetic populations are nutritional supplements, herbal medicines,
     nutritional advice, spiritual healing and relaxation techniques.  The
     characteristics which influence complementary and alternative medicine use
     are age, duration of diabetes, degree of complications and self-monitoring
     of blood glucose.  CONCLUSION: Although inconsistency in the definition of
     complementary and alternative medicine and varying research designs make
     estimation of usage prevalence difficult, evidence suggests that a high
     proportion of people with diabetes use these therapies concurrently with
     conventional healthcare services.  Healthcare professionals need to be
     aware of this issue and may need to incorporate complementary and
     alternative medicine information into patient assessment and intervention.

L8   ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2005:1127061  CAPLUS
DN   144:345623
TI   Trans-sialidase from Trypanosoma congolense - Isolation, characterization
     and molecular biology
AU   Tiralongo, Evelin
CS   Germany
SO   (2004) No pp. given  Avail.: Metadata on Internet Documents, Order No.
     52901
     From: Metadata Internet Doc. [Ger. Diss.] 2004, (D1014-4), No pp. given
     URL: http://www.meind.de/search.py?recid=52901
DT   Dissertation
LA   English
```

AB Unavailable

L8 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:510002 CAPLUS
DN 141:84624
TI Trans-sialidases and genes of Trypanosoma congolense and their uses in enzymic sialidation and preparation of food and pharmaceuticals
IN Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl, Bernd; Schrader, Silke
PA N.V. Nutricia, Neth.
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10258400	A1	20040624	DE 2002-10258400	20021213
	CA 2509070	A1	20040701	CA 2003-2509070	20031211
	WO 2004055176	A2	20040701	WO 2003-EP14079	20031211
	WO 2004055176	A3	20050526		
	W: AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	AU 2003294833	A1	20040709	AU 2003-294833	20031211
	EP 1570054	A2	20050907	EP 2003-785794	20031211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1726279	A	20060125	CN 2003-80106002	20031211
	JP 2006509515	T	20060323	JP 2004-559814	20031211
	US 2007004656	A1	20070104	US 2005-538840	20050613
PRAI	DE 2002-10258400	A	20021213		
	WO 2003-EP14079	W	20031211		

AB The invention concerns enzymes from T. congolense which transfer sialic acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as the nucleic acids encoding these enzymes. These enzymes may be used for enzymic sialization of acceptor mols. as well as for screening for inhibitors of the enzymes. Also disclosed are uses of the nucleic acids, enzymes, effectors, or sialization products for production of antigens, medicines, food or food supplements. Thus, two trans-sialidases were isolated from T. congolense. Both displayed a temperature optimum of 30-40° and a pH optimum of 6.5-8.5. The native mol. weight of one was 400-600 kDa, of the other, 120-180 kDa. Both contained subunits of 90 kDa.

L8 ANSWER 4 OF 6 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 1
AN 2003:375019 BIOSIS
DN PREV200300375019
TI Two trans-sialidase forms with different sialic acid transfer and sialidase activities from Trypanosoma congolense.
AU Tiralongo, Evelin; Schrader, Silke; Lange, Hans; Lemke, Hilmar; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Universitaet zu Kiel, Olshausenstrasse 40, Kiel, 24098, Germany
schauer@biochem.uni-kiel.de
SO Journal of Biological Chemistry, (June 27 2003) Vol. 278, No. 26, pp. 23301-23310. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 13 Aug 2003
Last Updated on STN: 13 Aug 2003
AB Trypanosomes express an enzyme called trans-sialidase (TS), which enables

the parasites to transfer sialic acids from the environment onto trypanosomal surface molecules. Here we describe the purification and characterization of two TS forms from the African trypanosome Trypanosoma congolense. The purification of the two TS forms using a combination of anion exchange chromatography, isoelectric focusing, gel filtration, and subsequently, antibody affinity chromatography resulted, in both cases, in the isolation of a 90-kDa monomer on SDS-PAGE, which was identified as trans-sialidase using micro-sequencing. Monoclonal antibody 7/23, which bound and partially inhibited TS activity, was found in both cases to bind to a 90-kDa protein. Both TS forms possessed sialidase and transfer activity, but markedly differed in their activity ratios. The TS form with a high transfer-to-sialidase activity ratio, referred to as TS-form 1, possessed a pI of pH 4-5 and a molecular mass of 350-600 kDa. In contrast, the form with a low transfer-to-sialidase activity ratio, referred to as TS-form 2, exhibited a pI of pH 5-6.5 and a molecular mass of 130-180 kDa. Both TS forms were not significantly inhibited by known sialidase inhibitors and revealed no significant differences in donor and acceptor substrate specificities; however, TS-form 1 utilized various acceptor substrates with a higher catalytic efficiency. Interestingly, glutamic acid-alanine-rich protein, the surface glycoprotein, was co-purified with TS-form 1 suggesting an association between both proteins.

L8 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 2
AN 2003:525432 BIOSIS
DN PREV200300528766
TI Trans-sialidase-like sequences from Trypanosoma congolense conserve most of the critical active site residues found in other trans-sialidases.
AU Tiralongo, Evelin; Martensen, Ilka; Groetzinger, Joachim; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, Olshausenstrasse 40, D-24098, Kiel, Germany
SO Biological Chemistry, (August 2003) Vol. 384, No. 8, pp. 1203-1213. print. ISSN: 1431-6730.
DT Article
LA English
ED Entered STN: 12 Nov 2003
Last Updated on STN: 12 Nov 2003
AB Trypanosoma congolense is the agent of Nagana, the trypanosomiasis in African ruminants. Trypanosomes express an enzyme called trans-sialidase, which is believed to play an important role in maintaining pathogenicity of the parasites. Thus far, only two complete trans-sialidase sequences have been characterised, one from the American trypanosome T. cruzi and one from the African trypanosome T. brucei brucei. Although the crystal structure of T. cruzi trans-sialidase has recently been published (Buschiazzo et al., Mol. Cell 10 (2002), pp. 757-768), a number of questions concerning the exact transfer mechanism remain unanswered. The availability of further trans-sialidase sequences will ensure a better understanding of how transfer activity can be achieved and will provide the opportunity to develop highly specific, structure-based trans-sialidase inhibitors. Utilising a PCR-based approach two different trans-sialidase gene copies from T. congolense were identified, which share only 50% identity with each other, but show significant similarity with known viral, bacterial and trypanosomal sialidases and trans-sialidases. In both partial sequences most of the critical active site residues common to other trypanosomal sialidases and trans-sialidases are conserved. This is further illustrated by modelling the active site of the longer of the two partial gene sequences.

L8 ANSWER 6 OF 6 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 3
AN 2004:193248 BIOSIS
DN PREV200400207215

TI A nonradioactive 96-well plate assay for screening of trans-sialidase activity.
AU Schrader, Silke; Tiralongo, Evelin; Paris, Gaston; Yoshino, Teruo; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
schauer@biochem.uni-kiel.de
SO Analytical Biochemistry, (November 15 2003) Vol. 322, No. 2, pp. 139-147. print.
ISSN: 0003-2697 (ISSN print).
DT Article
LA English
ED Entered STN: 14 Apr 2004
Last Updated on STN: 14 Apr 2004
AB Trans-sialidase (E.C. 3.2.1.18) catalyzes the transfer of preferably alpha2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha2,3 linkage to galactose or N-acetylgalactosamine. Here, we describe a nonradioactive 96-well plate fluorescence test for monitoring trans-sialidase activity with high sensitivity, specificity, and reproducibility using sialyllactose and 4-methylumbelliferyl-beta-D-galactoside as donor and acceptor substrates, respectively. The assay conditions were optimized using the trans-sialidase from Trypanosoma congolense and its general applicability was confirmed with recombinant trans-sialidase from Trypanosoma cruzi. Using this procedure, a large number of samples can be tested quickly and reliably, for instance in monitoring trans-sialidase during enzyme purification and the production of monoclonal antibodies, for enzyme characterization, and for identifying potential substrates and inhibitors. The trans-sialidase assay reported here was capable of detecting trans-sialidase activity in the low-mU range and may be a valuable tool in the search for further trans-sialidases in various biological systems.

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=> e schrader silke/au
E1          27     SCHRADER SIGURD/AU
E2           7     SCHRADER SIGURD K/AU
E3          20 --> SCHRADER SILKE/AU
E4           1     SCHRADER SPELA/AU
E5           3     SCHRADER ST/AU
E6          48     SCHRADER STEFAN/AU
E7          13     SCHRADER STEFFI/AU
E8           4     SCHRADER STEPHAN/AU
E9           7     SCHRADER STEPHANIE/AU
E10         12     SCHRADER STEPHEN M/AU
E11          3     SCHRADER STEVE/AU
E12          2     SCHRADER STEVE M/AU

=> s e3
L9          20 "SCHRADER SILKE"/AU

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10          11 DUP REM L9 (9 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):y

L10  ANSWER 1 OF 11  BIOSIS  COPYRIGHT (c) 2007 The Thomson Corporation  on STN
AN   2007:246176  BIOSIS
DN   PREV200700247991
TI   Nonradioactive trans-sialidase screening assay.
AU   Schrader, Silke [Reprint Author]; Schauer, Roland
CS   Univ Cologne, Biochem Inst, Cologne, Germany
SO   Brockhausen, I [Editor]. Methods in Molecular Biology, (2006) pp. 93-107.
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Methods in Molecular Biology.
Publisher: HUMANA PRESS INC, 999 RIVERVIEW DR, STE 208, TOTOWA, NJ 07512-1165 USA. Series: METHODS IN MOLECULAR BIOLOGY.
ISSN: 1064-3745. ISBN: 978-1-58829-553-8(H).
DT Book; (Book Chapter)
LA English
ED Entered STN: 18 Apr 2007
Last Updated on STN: 18 Apr 2007
AB Trans-sialidase (TS; E.C. 3.2.1.18) catalyzes the transfer of preferably alpha 2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha 2,3-linkage to galactose or N-acetylgalactosamine. In the absence of an appropriate acceptor, TS acts as a sialidase, hydrolytically releasing glycosidically linked sialic acid. Interest in TS has increased rapidly in recent years owing to its great relevance to the pathogenicity of trypanosomes and its possible application in the regiospecific synthesis of sialylated carbohydrates and glycoconjugates. Recently, the authors described a newly developed nonradioactive screening test for monitoring TS activity (1). In this highly sensitive and specific assay, 4-methylumbelliferyl-beta-D-galactoside is used as acceptor substrate and sialyllactose as donor to fluorimetrically detect enzyme activity in the low mU range (similar to 0.1-1 mU/mL possible). The test can be applied to screen a large number of samples quickly and reliably during enzyme purification, for testing inhibitors, and for monitoring TS activity during the production of monoclonal antibodies (2).This chapter focuses on the main steps of this assay and gives detailed instructions for performing a nonradioactive TS 96-well-plate fluorescence test. In addition, it describes the controls necessary when starting to monitor an unknown TS and facts to be considered when testing new substrates and inhibitors.

L10 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1
AN 2006:1238052 CAPLUS
DN 146:374653
TI Nonradioactive Trans-sialidase screening assay
AU Schrader, Silke; Schauer, Roland
CS Biochemisches Institut, University of Koeln, Cologne, Germany
SO Methods in Molecular Biology (Totowa, NJ, United States) (2006), 347(Glycobiology Protocols), 93-107
CODEN: MMBIED; ISSN: 1064-3745
PB Humana Press Inc.
DT Journal
LA English
AB Trans-sialidase (TS; E.C. 3.2.1.18) catalyzes the transfer of preferably α2,3-linked sialic acid to another glycan or glycoconjugate, forming a new α2,3-linkage to galactose or N-acetylgalactosamine. In the absence of an appropriate acceptor, TS acts as a sialidase, hydrolytically releasing glycosidically linked sialic acid. Interest in TS has increased rapidly in recent years owing to its great relevance to the pathogenicity of trypanosomes and its possible application in the regiospecific synthesis of sialylated carbohydrates and glycoconjugates. Recently, the authors described a newly developed nonradioactive screening test for monitoring TS activity. In this highly sensitive and specific assay, 4-methylumbelliferyl-β-D-galactoside is used as acceptor substrate and sialyllactose as donor to fluorimetrically detect enzyme activity in the low mil range (.apprx.0.1-1 mU/mL possible). The test can be applied to screen a large number of samples quickly and reliably during enzyme purification, for testing inhibitors, and for monitoring TS activity during the production of monoclonal antibodies. This chapter focuses on the main steps of this assay and gives detailed instructions for performing a nonradioactive TS 96-well-plate fluorescence test. In addition, it describes the controls necessary when starting to monitor an unknown TS and facts to be considered when testing new substrates and inhibitors.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:510002 CAPLUS
DN 141:84624
TI Trans-sialidases and genes of Trypanosoma congolense and their uses in enzymic sialidation and preparation of food and pharmaceuticals
IN Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl, Bernd; Schrader, Silke
PA N.V. Nutricia, Neth.
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10258400	A1	20040624	DE 2002-10258400	20021213
	CA 2509070	A1	20040701	CA 2003-2509070	20031211
	WO 2004055176	A2	20040701	WO 2003-EP14079	20031211
	WO 2004055176	A3	20050526		
	W: AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	AU 2003294833	A1	20040709	AU 2003-294833	20031211
	EP 1570054	A2	20050907	EP 2003-785794	20031211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1726279	A	20060125	CN 2003-80106002	20031211
	JP 2006509515	T	20060323	JP 2004-559814	20031211
	US 2007004656	A1	20070104	US 2005-538840	20050613
PRAI	DE 2002-10258400	A	20021213		
	WO 2003-EP14079	W	20031211		

AB The invention concerns enzymes from T. congolense which transfer sialic acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as the nucleic acids encoding these enzymes. These enzymes may be used for enzymic sialization of acceptor mols. as well as for screening for inhibitors of the enzymes. Also disclosed are uses of the nucleic acids, enzymes, effectors, or sialization products for production of antigens, medicines, food or food supplements. Thus, two trans-sialidases were isolated from T. congolense. Both displayed a temperature optimum of 30-40° and a pH optimum of 6.5-8.5. The native mol. weight of one was 400-600 kDa, of the other, 120-180 kDa. Both contained subunits of 90 kDa.

L10 ANSWER 4 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 2
AN 2003:375019 BIOSIS
DN PREV200300375019
TI Two trans-sialidase forms with different sialic acid transfer and sialidase activities from Trypanosoma congolense.
AU Tiralongo, Evelin; Schrader, Silke; Lange, Hans; Lemke, Hilmar; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Universitaet zu Kiel, Olshausenstrasse 40, Kiel, 24098, Germany
schauer@biochem.uni-kiel.de
SO Journal of Biological Chemistry, (June 27 2003) Vol. 278, No. 26, pp. 23301-23310. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 13 Aug 2003
Last Updated on STN: 13 Aug 2003
AB Trypanosomes express an enzyme called trans-sialidase (TS), which enables the parasites to transfer sialic acids from the environment onto

trypanosomal surface molecules. Here we describe the purification and characterization of two TS forms from the African trypanosome Trypanosoma congolense. The purification of the two TS forms using a combination of anion exchange chromatography, isoelectric focusing, gel filtration, and subsequently, antibody affinity chromatography resulted, in both cases, in the isolation of a 90-kDa monomer on SDS-PAGE, which was identified as trans-sialidase using micro-sequencing. Monoclonal antibody 7/23, which bound and partially inhibited TS activity, was found in both cases to bind to a 90-kDa protein. Both TS forms possessed sialidase and transfer activity, but markedly differed in their activity ratios. The TS form with a high transfer-to-sialidase activity ratio, referred to as TS-form 1, possessed a pI of pH 4-5 and a molecular mass of 350-600 kDa. In contrast, the form with a low transfer-to-sialidase activity ratio, referred to as TS-form 2, exhibited a pI of pH 5-6.5 and a molecular mass of 130-180 kDa. Both TS forms were not significantly inhibited by known sialidase inhibitors and revealed no significant differences in donor and acceptor substrate specificities; however, TS-form 1 utilized various acceptor substrates with a higher catalytic efficiency. Interestingly, glutamic acid-alanine-rich protein, the surface glycoprotein, was co-purified with TS-form 1 suggesting an association between both proteins.

L10 ANSWER 5 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 3
AN 2004:193248 BIOSIS
DN PREV200400207215
TI A nonradioactive 96-well plate assay for screening of trans-sialidase activity.
AU Schrader, Silke; Tiralongo, Evelin; Paris, Gaston; Yoshino, Teruo; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
schauer@biochem.uni-kiel.de
SO Analytical Biochemistry, (November 15 2003) Vol. 322, No. 2, pp. 139-147. print.
ISSN: 0003-2697 (ISSN print).
DT Article
LA English
ED Entered STN: 14 Apr 2004
Last Updated on STN: 14 Apr 2004
AB Trans-sialidase (E.C. 3.2.1.18) catalyzes the transfer of preferably alpha2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha2,3 linkage to galactose or N-acetylgalactosamine. Here, we describe a nonradioactive 96-well plate fluorescence test for monitoring trans-sialidase activity with high sensitivity, specificity, and reproducibility using sialyllactose and 4-methylumbelliferyl-beta-D-galactoside as donor and acceptor substrates, respectively. The assay conditions were optimized using the trans-sialidase from Trypanosoma congolense and its general applicability was confirmed with recombinant trans-sialidase from Trypanosoma cruzi. Using this procedure, a large number of samples can be tested quickly and reliably, for instance in monitoring trans-sialidase during enzyme purification and the production of monoclonal antibodies, for enzyme characterization, and for identifying potential substrates and inhibitors. The trans-sialidase assay reported here was capable of detecting trans-sialidase activity in the low-mU range and may be a valuable tool in the search for further trans-sialidases in various biological systems.

L10 ANSWER 6 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 4
AN 2002:526974 BIOSIS
DN PREV200200526974
TI Seasonal changes of sucrose-phosphate synthase and sucrose synthase activities in poplar wood (PopulusXcanadensis Moench 'robusta') and their

possible role in carbohydrate metabolism.
AU Schrader, Silke [Reprint author]; Sauter, Joerg J.
CS Botanisches Institut der Universitaet Kiel, Olshausenstr. 40, D-24098, Kiel, Germany
sschrader@uni-koeln.de
SO Journal of Plant Physiology, (August, 2002) Vol. 159, No. 8, pp. 833-843. print.
CODEN: JPPHEY. ISSN: 0176-1617.
DT Article
LA English
ED Entered STN: 9 Oct 2002
Last Updated on STN: 9 Oct 2002
AB Two important enzymes of sucrose metabolism, sucrose-phosphate synthase (SPS, EC 2.4.1.14) and sucrose synthase (SuSy, EC 2.4.1.13), were investigated in the ray parenchyma cells of the trunk wood of PopulusXcanadensis Moench 'robusta' throughout the year. The activity of SPS increases dramatically in autumn in parallel with leaf fall, reaches a maximum level in winter at the time of the starch-to-sugar conversion and declines in spring during starch resynthesis and mobilisation. In summer, the activity of SPS remains at a very low level. These seasonal changes in SPS activity were identical both under Vmax- and under Vjim-assay conditions. In temperature-controlled storage experiments with twig sections, the activation state of SPS, termed as Vjim/VmaxX100, was substantially higher after storage at -5degreeC in contrast to storage at +10degreeC. A Western blot analysis, using a polyclonal antibody, revealed a molecular weight of about 130 kD for the SPS-polypeptide in poplar wood with highest levels of SPS enzyme protein in winter and lowest levels in summer. SPS of other tree species (Acer, Fagus, Salix) exhibited a molecular weight in a similar range. The activity of SuSy started to increase in late autumn, was high in winter and declined in spring. In contrast to SPS, SuSy shows a remarkably high activity in the outer wood area in summer while it remained low in the middle and inner area of the trunk wood. This high SuSy activity correlates with the differentiation of the xylem cells rather than with starch deposition. The significance of the SPS in autumn and winter for the starch-to-sugar conversion during cold adaptation of xylem parenchyma cells and of the SuSy for wood formation processes is discussed.

L10 ANSWER 7 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 5
AN 2001:439757 BIOSIS
DN PREV200100439757
TI Rapid, ATP-dependent degradation of a truncated D1 protein in the chloroplast.
AU Preiss, Susanne; Schrader, Silke; Johanningmeier, Udo [Reprint author]
CS Martin-Luther-Universitaet Halle-Wittenberg, Institut fuer Pflanzenphysiologie, Weinbergweg 10, 06120, Halle-Saale, Germany
johanningmeier@pflanzenphys.uni-halle.de
SO European Journal of Biochemistry, (August, 2001) Vol. 268, No. 16, pp. 4562-4569. print.
CODEN: EJBCAI. ISSN: 0014-2956.
DT Article
LA English
ED Entered STN: 19 Sep 2001
Last Updated on STN: 22 Feb 2002
AB The D1 protein constitutes one of the reaction center subunits of photosystem II and turns over rapidly due to photooxidative damage. Here, we studied the degradation of a truncated D1 protein. A plasmid with a precise deletion in the reading frame of the psbA gene encoding D1 was introduced into the chloroplast of Chlamydomonas reinhardtii. A homoplasmic mutant containing the desired gene was able to synthesize the truncated form of the polypeptide, but could not accumulate significant levels of it. As a consequence, other central photosystem II subunits did

not assemble within the thylakoid membrane. In vivo pulse-chase experiments showed that the abnormal D1 protein is rapidly degraded in the light. Degradation was delayed in the light in the presence of an uncoupler, or when cells were incubated in the dark. Pulse-chase experiments performed in vitro indicate that an ATP and metal-dependent protease is responsible for the breakdown process. The paper describes the first in vivo and in vitro functional test for ATP-dependent degradation of a defect polypeptide in chloroplasts. The possible involvement of proteases similar to those removing abnormal proteins in prokaryotic organisms is discussed on the basis of proteases recently identified in chloroplasts.

L10 ANSWER 8 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 6
AN 2000:364152 BIOSIS
DN PREV200000364152
TI Sequence of the two operons encoding the four core subunits of the cytochrome b6f complex from the thermophilic cyanobacterium Synechococcus elongatus.
AU Schneider, Dirk; Altenfeld, Ursula; Thomas, Heike; Schrader, Silke ; Muehlenhoff, Ulrich; Roegner, Matthias [Reprint author]
CS Lehrstuhl fuer Biochemie der Pflanzen, Fakultaet fuer Biologie, Ruhr-Universitaet Bochum, D-44780, Bochum, Germany
SO Biochimica et Biophysica Acta, (April 25, 2000) Vol. 1491, No. 1-3, pp. 364-368. print.
CODEN: BBACAQ. ISSN: 0006-3002.
DT Article
LA English
OS Genbank-AJ243535; EMBL-AJ243535; DDBJ-AJ243535; Genbank-AJ243707; EMBL-AJ243707; DDBJ-AJ243707
ED Entered STN: 23 Aug 2000
Last Updated on STN: 8 Jan 2002
AB The genes encoding cytochrome f (petA), cytochrome b6 (petB), the Rieske FeS-protein (petC), and subunit IV (petD) of the cytochrome b6f complex from the thermophilic cyanobacterium Synechococcus elongatus were cloned and sequenced. Similar to other cyanobacteria, the structural genes are arranged in two short, single-copy operons, petC/petA and petB/petD, respectively. In addition, five open reading frames with homology to known orfs from the cyanobacterium Synechocystis PCC 6803 were identified in the immediate vicinity of these two operons.

L10 ANSWER 9 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
AN 2001:93151 BIOSIS
DN PREV200100093151
TI Trypanosomal transsialidase; a multi-talented "glycosyltransferase".
AU Raudies, Evelin [Reprint author]; Schrader, Silke [Reprint author]; Engstler, Markus; Schauer, Roland [Reprint author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel,. 24098, Kiel, Germany
SO Glycoconjugate Journal, (January-February, 2000) Vol. 17, No. 1-2, pp. 56. print.
Meeting Info.: Second International Glycosyltransferase Symposium. Toronto, Ontario, Canada. May 12-14, 2000.
ISSN: 0282-0080.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 21 Feb 2001
Last Updated on STN: 12 Feb 2002

L10 ANSWER 10 OF 11 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN DUPLICATE 7
AN 1996:386115 BIOSIS
DN PREV199699108471

TI Asparagine catabolism in bryophytes: Purification and characterization of two L-asparaginase isoforms from Sphagnum fallax.
AU Heeschen, Volker; Matlok, Johannes; Schrader, Silke; Rudolph, Hansjorg [Reprint author]
CS Botanisches Inst. der Christian-Albrechts-Univ. zu Kiel, Biologiezentrum, Olshausenstrasse 20-40, D-24098 Kiel, Germany
SO Physiologia Plantarum, (1996) Vol. 97, No. 2, pp. 402-410.
CODEN: PHPLAI. ISSN: 0031-9317.
DT Article
LA English
ED Entered STN: 26 Aug 1996
Last Updated on STN: 26 Aug 1996
AB Nitrogen represents a critical nutrient in raised bogs. In Sphagna, dominating this habitat, the prevalent storage amino acid asparagine is catabolized predominantly by the enzyme L-asparaginase (EC 3.5.1.1). L-asparaginase activity has been detected in each of 10 Sphagnum species investigated. In Sphagnum fallax Klinggr. (Klinggr. clone 1) cultivated under axenic conditions in continuous feed bioreactors, the enzyme displayed a light dependent increase in activity. We separated two isoforms, designated L-asparaginase 1 and 2, characterized by their different elution patterns from an anion-exchange column. In stem segments only L-asparaginase 2 could be detected, whereas in capitulae L-asparaginase 1 represented the dominating isoform. Purified chloroplasts displayed no L-asparaginase activity. Almost the entire activity was located in the cytosolic fraction. L-asparaginase 1 and 2 have been purified 82-fold and 188-fold, respectively, by ion-exchange, size-exclusion and hydrophobic interaction chromatography. Identical pH optima (8.2) and molecular weights (126,000) were determined. The K-m values for asparagine (7.4 mM for L-asparaginase 1 and 6.2 mM for L-asparaginase 2) were in the range of those described for higher plants. On the other hand Sphagnum L-asparaginase is comprised of four subunits as are the L-asparaginases of microorganisms. So, the characteristics of the bryophyte enzyme appear to be intermediate between those from higher plants and those from microorganisms.

L10 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:528349 CAPLUS
DN 117:128349
TI The carboxy-terminal extension of the D1-precursor protein is dispensable for a functional photosystem II complex in Chlamydomonas reinhardtii
AU Schrader, Silke; Johanningmeier, Udo
CS Ruhr-Univ. Bochum, Bochum, 4630, Germany
SO Plant Molecular Biology (1992), 19(2), 251-6
CODEN: PMBIDB; ISSN: 0167-4412
DT Journal
LA English
AB The D1-precursor protein of the photosystem II reaction center contains a carboxy-terminal extension whose proteolytic removal is necessary for oxygen-evolving activity. To address the question of the role of the carboxy-terminal extension in the green alga C. reinhardtii, D1 was truncated by converting codon Ser345 of the psbA gene into a stop codon. Particle gun transformation of an in vitro modified psbA gene fragment also carrying mutations conferring herbicide resistance yielded a homoplasmic transformant containing the stop codon. Since oxygen evolution capacity is not affected in this mutant as compared with herbicide-resistant control cells, the carboxy-terminal extension is dispensable for a functional photosystem II complex under normal growth conditions.

=> s congolense and ((trans sialidase?)or(transsialidas?))
L11 25 CONGOLENSE AND ((TRANS SIALIDASE?) OR(TRANSSIALIDAS?))

=> dup rem l11

PROCESSING COMPLETED FOR L11
L12 9 DUP REM L11 (16 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 9 ANSWERS - CONTINUE? Y/(N):y

L12 ANSWER 1 OF 9 MEDLINE on STN
AN 2006635770 MEDLINE
DN PubMed ID: 17072006
TI Nonradioactive trans-sialidase screening assay.
AU Schrader Silke; Schauer Roland
CS Biochemisches Institut, University of Koln, Koln, Germany.
SO Methods in molecular biology (Clifton, N.J.), (2006) Vol. 347, pp. 93-107.
Journal code: 9214969. ISSN: 1064-3745.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200701
ED Entered STN: 31 Oct 2006
Last Updated on STN: 31 Jan 2007
Entered Medline: 30 Jan 2007
AB Trans-sialidase (TS; E.C. 3.2.1.18) catalyzes the transfer of preferably alpha2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha2,3-linkage to galactose or N-acetylgalactosamine. In the absence of an appropriate acceptor, TS acts as a sialidase, hydrolytically releasing glycosidically linked sialic acid. Interest in TS has increased rapidly in recent years owing to its great relevance to the pathogenicity of trypanosomes and its possible application in the regiospecific synthesis of sialylated carbohydrates and glycoconjugates. Recently, the authors described a newly developed nonradioactive screening test for monitoring TS activity (1). In this highly sensitive and specific assay, 4-methylumbelliferyl-beta-D-galactoside is used as acceptor substrate and sialyllactose as donor to fluorimetrically detect enzyme activity in the low mU range (approximately 0.1-1 mU/mL possible). The test can be applied to screen a large number of samples quickly and reliably during enzyme purification, for testing inhibitors, and for monitoring TS activity during the production of monoclonal antibodies (2). This chapter focuses on the main steps of this assay and gives detailed instructions for performing a nonradioactive TS 96-well-plate fluorescence test. In addition, it describes the controls necessary when starting to monitor an unknown TS and facts to be considered when testing new substrates and inhibitors.

L12 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1127061 CAPLUS
DN 144:345623
TI Trans-sialidase from Trypanosoma congolense - Isolation, characterization and molecular biology
AU Tiralongo, Evelin
CS Germany
SO (2004) No pp. given Avail.: Metadata on Internet Documents, Order No. 52901
From: Metadata Internet Doc. [Ger. Diss.] 2004, (D1014-4), No pp. given
URL: http://www.meind.de/search.py?recid=52901
DT Dissertation
LA English
AB Unavailable

L12 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:510002 CAPLUS
DN 141:84624

TI Trans-sialidases and genes of Trypanosoma congolense and their uses in enzymic sialidation and preparation of food and pharmaceuticals

IN Schauer, Roland; Tiralongo, Evelin; Boehm, Guenther; Stahl, Bernd; Schrader, Silke

PA N.V. Nutricia, Neth.

SO Ger. Offen., 33 pp.
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10258400	A1	20040624	DE 2002-10258400	20021213
	CA 2509070	A1	20040701	CA 2003-2509070	20031211
	WO 2004055176	A2	20040701	WO 2003-EP14079	20031211
	WO 2004055176	A3	20050526		
	W: AL, AU, CA, CN, ID, JP, LT, LV, MK, NZ, RU, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	AU 2003294833	A1	20040709	AU 2003-294833	20031211
	EP 1570054	A2	20050907	EP 2003-785794	20031211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1726279	A	20060125	CN 2003-80106002	20031211
	JP 2006509515	T	20060323	JP 2004-559814	20031211
	US 2007004656	A1	20070104	US 2005-538840	20050613
PRAI	DE 2002-10258400	A	20021213		
	WO 2003-EP14079	W	20031211		

AB The invention concerns enzymes from T. congolense which transfer sialic acids from a donor mol. to an acceptor mol. (trans-sialidases) as well as the nucleic acids encoding these enzymes. These enzymes may be used for enzymic sialization of acceptor mols. as well as for screening for inhibitors of the enzymes. Also disclosed are uses of the nucleic acids, enzymes, effectors, or sialization products for production of antigens, medicines, food or food supplements. Thus, two trans-sialidases were isolated from T. congolense. Both displayed a temperature optimum of 30-40° and a pH optimum of 6.5-8.5. The native mol. weight of one was 400-600 kDa, of the other, 120-180 kDa. Both contained subunits of 90 kDa.

L12 ANSWER 4 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 1

AN 2003:375019 BIOSIS

DN PREV200300375019

TI Two trans-sialidase forms with different sialic acid transfer and sialidase activities from Trypanosoma congolense.

AU Tiralongo, Evelin; Schrader, Silke; Lange, Hans; Lemke, Hilmar; Tiralongo, Joe; Schauer, Roland [Reprint Author]

CS Biochemisches Institut, Universitaet zu Kiel, Olshausenstrasse 40, Kiel, 24098, Germany
schauer@biochem.uni-kiel.de

SO Journal of Biological Chemistry, (June 27 2003) Vol. 278, No. 26, pp. 23301-23310. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 13 Aug 2003
Last Updated on STN: 13 Aug 2003

AB Trypanosomes express an enzyme called trans-sialidase (TS), which enables the parasites to transfer sialic acids from the environment onto trypanosomal surface molecules. Here we describe the purification and characterization of two TS forms from the African trypanosome Trypanosoma congolense. The purification of the two

TS forms using a combination of anion exchange chromatography, isoelectric focusing, gel filtration, and subsequently, antibody affinity chromatography resulted, in both cases, in the isolation of a 90-kDa monomer on SDS-PAGE, which was identified as trans-sialidase using micro-sequencing. Monoclonal antibody 7/23, which bound and partially inhibited TS activity, was found in both cases to bind to a 90-kDa protein. Both TS forms possessed sialidase and transfer activity, but markedly differed in their activity ratios. The TS form with a high transfer-to-sialidase activity ratio, referred to as TS-form 1, possessed a pI of pH 4-5 and a molecular mass of 350-600 kDa. In contrast, the form with a low transfer-to-sialidase activity ratio, referred to as TS-form 2, exhibited a pI of pH 5-6.5 and a molecular mass of 130-180 kDa. Both TS forms were not significantly inhibited by known sialidase inhibitors and revealed no significant differences in donor and acceptor substrate specificities; however, TS-form 1 utilized various acceptor substrates with a higher catalytic efficiency. Interestingly, glutamic acid-alanine-rich protein, the surface glycoprotein, was co-purified with TS-form 1 suggesting an association between both proteins.

L12 ANSWER 5 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 2
AN 2003:525432 BIOSIS
DN PREV200300528766
TI Trans-sialidase-like sequences from Trypanosoma congolense conserve most of the critical active site residues found in other trans-sialidases.
AU Tiralongo, Evelin; Martensen, Ilka; Groetzinger, Joachim; Tiralongo, Joe; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, Olshausenstrasse 40, D-24098, Kiel, Germany
SO Biological Chemistry, (August 2003) Vol. 384, No. 8, pp. 1203-1213. print. ISSN: 1431-6730.
DT Article
LA English
ED Entered STN: 12 Nov 2003
Last Updated on STN: 12 Nov 2003
AB Trypanosoma congolense is the agent of Nagana, the trypanosomiasis in African ruminants. Trypanosomes express an enzyme called trans-sialidase, which is believed to play an important role in maintaining pathogenicity of the parasites. Thus far, only two complete trans-sialidase sequences have been characterised, one from the American trypanosome T. cruzi and one from the African trypanosome T. brucei brucei. Although the crystal structure of T. cruzi trans-sialidase has recently been published (Buschiazzo et al., Mol. Cell 10 (2002), pp. 757-768), a number of questions concerning the exact transfer mechanism remain unanswered. The availability of further trans-sialidase sequences will ensure a better understanding of how transfer activity can be achieved and will provide the opportunity to develop highly specific, structure-based trans-sialidase inhibitors. Utilising a PCR-based approach two different trans-sialidase gene copies from T. congolense were identified, which share only 50% identity with each other, but show significant similarity with known viral, bacterial and trypanosomal sialidases and trans-sialidases. In both partial sequences most of the critical active site residues common to other trypanosomal sialidases and trans-sialidases are conserved. This is further illustrated by modelling the active site of the longer of the two partial gene sequences.

L12 ANSWER 6 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 3
AN 2003:512305 BIOSIS
DN PREV200300515634

TI A bloodstream Trypanosoma congolense sialidase could be involved in anemia during experimental trypanosomiasis.
AU Nok, Andrew J. [Reprint Author]; Balogun, Emmanuel O.
CS Department of Biochemistry, Ahmadu Bello University Zaria, Zaria, Nigeria jandrew@skannet.com
SO Journal of Biochemistry (Tokyo), (Jun 2003) Vol. 133, No. 6, pp. 725-730. print.
CODEN: JOBIAO. ISSN: 0021-924X.
DT Article
LA English
ED Entered STN: 5 Nov 2003
Last Updated on STN: 5 Nov 2003
AB The release of Sialic acid (SA) into the serum by Trypanosoma congolense infected BalbC mice was investigated. A progressive increase in the level of serum SA corresponding to anemia and parasitemia was observed. At maximum parasitemia, the level of total SA from the red blood cells (RBC) dropped by about 45%. Solved polynomials revealed an association between free serum SA and RBC-SA. Positive roots of quadratics were used to predict complete cleavage of RBC-SA on day 7.01 and maxi-mum accumulation of free serum SA on day 6.6. A steady rise in the level of serum sialidase (SD) activity and a low packed cell volume (PCV) with an increase in parasitemia were observed. Mice infused with galactose, methyl-beta-gal, lactose, mannose, or L-arabinose and challenged by intraperitoneal inoculation with Trypanosoma congolense neither developed anemia nor secreted free SA above the control level even though there was detectable SD activity. Bloodstream Trypanosoma congolense parasites were isolated using DEAE cellulose from heparinized blood of experimentally infected BalbC mice. The parasites were lysed with 0.2% Triton-CF 54 to release membrane bound SD. The activity of the SD was proportional to the number of parasites. The enzyme was partially purified on Q-Sepharose and Fetuin agarose columns successively. The final active fraction from the latter column was used as the partially purified SD. The enzyme had an optimum pH of 6 and was maximally active at 37degreeC with a requirement for the divalent ions Ca2+ and Mg2+. The enzyme was highly specific for NeuAc5alpha2,3 lac and Methylumbelliferyl-Neu5Ac (4-MU-Neu5Ac) with KM values of 0.34 and 0.025 mM, respectively. It was inhibited competitively by 2,3-didehydroneuraminic acid (Neu5Ac2en) and para-nitro-phenyloxamic acid (pNPO) with inhibition binding constants Ki of 65 and 215 muM, respectively. In deviation from the procyclic trypanosomal SD, it lacked trans-sialidase (TS) activity. The possible role of a secreted bloodstream Trypanosoma congolense SD and the development of anemia in the pathogensesis of trypanosomiasis are discussed.

L12 ANSWER 7 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN DUPLICATE 4
AN 2004:193248 BIOSIS
DN PREV200400207215
TI A nonradioactive 96-well plate assay for screening of trans-sialidase activity.
AU Schrader, Silke; Tiralongo, Evelin; Paris, Gaston; Yoshino, Teruo; Schauer, Roland [Reprint Author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
schauer@biochem.uni-kiel.de
SO Analytical Biochemistry, (November 15 2003) Vol. 322, No. 2, pp. 139-147. print.
ISSN: 0003-2697 (ISSN print).
DT Article
LA English
ED Entered STN: 14 Apr 2004
Last Updated on STN: 14 Apr 2004
AB Trans-sialidase (E.C. 3.2.1.18) catalyzes the transfer

of preferably alpha2,3-linked sialic acid to another glycan or glycoconjugate, forming a new alpha2,3 linkage to galactose or N-acetylgalactosamine. Here, we describe a nonradioactive 96-well plate fluorescence test for monitoring trans-sialidase activity with high sensitivity, specificity, and reproducibility using sialyllactose and 4-methylumbelliferyl-beta-D-galactoside as donor and acceptor substrates, respectively. The assay conditions were optimized using the trans-sialidase from Trypanosoma congolense and its general applicability was confirmed with recombinant trans-sialidase from Trypanosoma cruzi. Using this procedure, a large number of samples can be tested quickly and reliably, for instance in monitoring trans-sialidase during enzyme purification and the production of monoclonal antibodies, for enzyme characterization, and for identifying potential substrates and inhibitors. The trans-sialidase assay reported here was capable of detecting trans-sialidase activity in the low-mU range and may be a valuable tool in the search for further trans-sialidases in various biological systems.

L12 ANSWER 8 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
AN 2001:93151 BIOSIS
DN PREV200100093151
TI Trypanosomal transsialidase; a multi-talented "glycosyltransferase".
AU Raudies, Evelin [Reprint author]; Schrader, Silke [Reprint author]; Engstler, Markus; Schauer, Roland [Reprint author]
CS Biochemisches Institut, Christian-Albrechts-Universitaet zu Kiel, 24098, Kiel, Germany
SO Glycoconjugate Journal, (January-February, 2000) Vol. 17, No. 1-2, pp. 56. print.
Meeting Info.: Second International Glycosyltransferase Symposium. Toronto, Ontario, Canada. May 12-14, 2000.
ISSN: 0282-0080.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 21 Feb 2001
Last Updated on STN: 12 Feb 2002

L12 ANSWER 9 OF 9 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
DUPLICATE 5
AN 1995:363134 BIOSIS
DN PREV199598377434
TI Distribution of developmentally regulated trans-sialidases in the kinetoplastida and characterization of a shed trans-sialidase activity from procyclic Trypanosoma congolense.
AU Engstler, M.; Schauer, R. [Reprint author]; Brun, R.
CS Olshausenstrasse 40, 24098 Kiel, Germany
SO Acta Tropica, (1995) Vol. 59, No. 2, pp. 117-129.
CODEN: ACTRAQ. ISSN: 0001-706X.
DT Article
LA English
ED Entered STN: 30 Aug 1995
Last Updated on STN: 30 Aug 1995
AB The expression of developmentally regulated sialidase and trans-sialidase activities in kinetoplastid protozoa was investigated. The occurrence of these enzymes was found not to be a common feature among the Kinetoplastida, but to be restricted to distinct developmental life cycle stages of only a few species. While sialidases without trans-sialylating activities were demonstrated in Trypanosoma vivax and T. rangeli, trans-sialidase activity is expressed throughout the brucei-group and in T. congolense. Neither T. evansi, nor T. equiperdum express sialidases or trans-

sialidases. Furthermore, the absence of both, sialidase and trans-sialidase activities was proven in the Leishmania, Crithidia, Herpetomonas, Leptomonas and Phytomonas, respectively. In all species tested, the occurrence of sialic acids coincides with the expression of trans-sialidase activity. Those parasites, which lack trans-sialidases or only display regular sialidases, also lack cell-bound sialic acids. The regular sialidase activity from bloodstream form T. vivax was characterized. The trans-sialidase from T. congolense is restricted to the procyclic culture forms and is shed into the culture medium. The enzyme has a pH-optimum at pH 7.0, displays sensitivity towards chlorides and is resistant against commonly used sialidase inhibitors. T. congolense trans-sialidase transfers preferentially alpha(2-3)-linked sialic acids onto terminal beta-galactose residues. Also hydroxylated sialic acids (Neu5Gc) are transferred. The major glycoprotein GARP from procyclic T. congolense was identified as one potential natural sialic acid acceptor on the parasite's surface. In order to facilitate the characterization of trans-sialidases a novel, fluorimetric trans-sialidase assay was develo